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**Piers et al.**

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(54) **MULTIFOCAL OPHTHALMIC LENS**

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This patent is subject to a terminal disclaimer.

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(52) **U.S. Cl.**
USPC ..... **623/6.3**

(58) **Field of Classification Search**
USPC ..... 623/6.23, 6.24, 6.27–6.31
See application file for complete search history.

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(57) **ABSTRACT**

A method of designing a multifocal ophthalmic lens with one base focus and at least one additional focus, capable of reducing aberrations of the eye for at least one of the foci after its implantation, comprising the steps of: (i) characterizing at least one corneal surface as a mathematical model; (ii) calculating the resulting aberrations of said corneal surface(s) by employing said mathematical model; (iii) modelling the multifocal ophthalmic lens such that a wavefront arriving from an optical system comprising said lens and said at least one corneal surface obtains reduced aberrations for at least one of the foci. There is also disclosed a method of selecting a multifocal intraocular lens, a method of designing a multifocal ophthalmic lens based on corneal data from a group of patients, and a multifocal ophthalmic lens.

**15 Claims, 4 Drawing Sheets**